



MAPP
Modeling, Analysis,
Predictions, and Projections

The MAPP Program and its Fiscal Year 2017 Funding Opportunities

During this webinar, MAPP program managers will present details about the MAPP program and its FY 2017 funding opportunities, and hold a Q&A session on program, competitions, and application process.

We will provide an overview of the program, including our function within the Climate Program Office and NOAA, our program's research focus areas, and ways that we partner with other programs within and outside of NOAA. We will describe the two new FY 2017 competitions, which have just been published at cpo.noaa.gov and released on Grants.gov. Finally, we will discuss the process of applying to MAPP competitions and will include personal tips for putting together a strong application. We will close the webinar with a Q&A session, in which we will answer your questions of general interest in real time via the chat function in WebEx.

The webinar will start around 1 p.m. ET.

Thanks for joining!



MAPP
Modeling, Analysis,
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The Modeling, Analysis, Predictions, and Projections (MAPP) Program and its FY 2017 Opportunities

MAPP Team

Annarita Mariotti, Dan Barrie, Heather Archambault,
Will Chong, and Alison Stevens





Presentation Overview

- A three-part presentation
 - Overview of the MAPP program (Annarita)
 - A description of the two FY 2017 competitions (just published early this week) (Dan and Heather)
 - Process and tips on how to apply (Heather and Dan)
- Q&A
 - Please ask general-interest questions, not ones that are proposal-specific
 - Submit your questions via the chat line
 - We will answer questions without revealing the id of the questioners
- CPO staff on the line
 - MAPP Program Team
 - Diane Brown, CPO Administrative Services Division



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1) The MAPP Program: An Overview

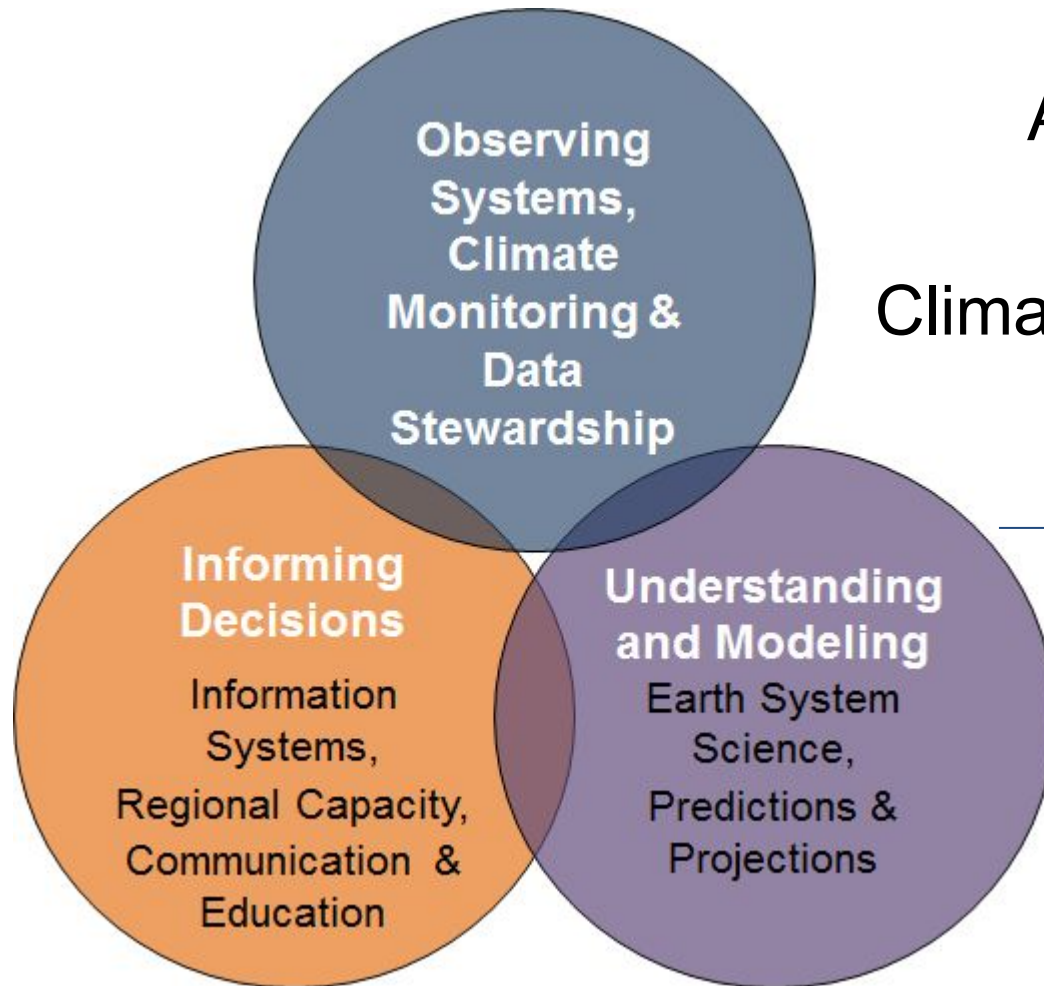
Annarita Mariotti, MAPP Program
Director





Our Role in NOAA

CPO Research Areas



Office of Oceanic &
Atmospheric Research



Climate Program Office (CPO)



MAPP Program



*A competitive grants
program at the interface
between science and
services*



Our Mission:

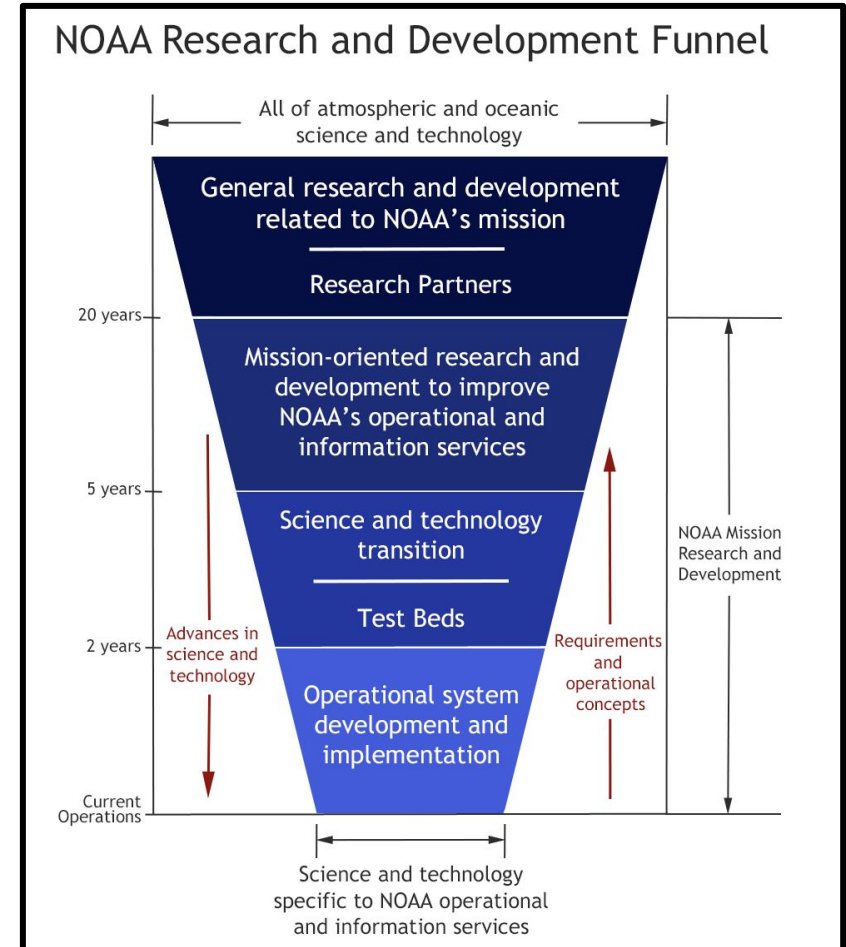
To enhance the Nation's capability to understand and predict natural variability and changes in Earth's climate system.



- We support research, transition to applications, and engagement activities that focus on the development, integration, and application of Earth system models and analyses
- We have strong partnerships within NOAA and with other agencies through the US Global Change Research Program, US Climate Variability and Predictability Program, and National Earth System Prediction Capability Program
- We engage with the external research community to extend NOAA's research capabilities; we facilitate internal research interactions and coordination

All MAPP-Supported Research is Mission-Driven

- NOAA is a science-based **service agency**
 - Our grant competitions fund research and transition work to help support NOAA's service requirements
 - We follow the R&D Funnel business model
- All research proposals to MAPP come through CPO's annual Federal Funding Opportunities





Our Research Focus Areas

Prediction - Weeks to Decades

Climate Reanalysis

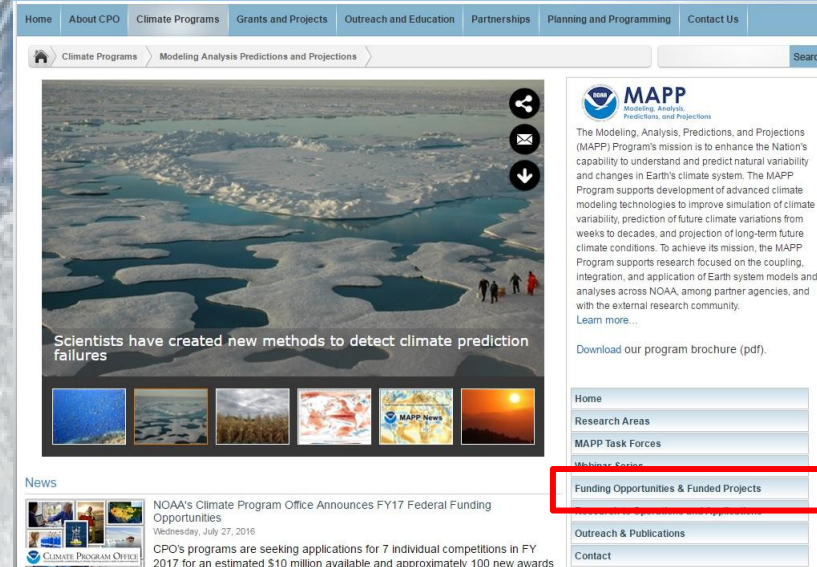
Climate and Earth System Modeling

Drought and Other Applications

Climate Projections

- MAPP supports these research areas via cycling annual grant competitions open to all eligible

See what MAPP funds by visiting <http://cpo.noaa.gov/mapp> and clicking on “Funding Opportunities & Funded Projects”





Our Task Forces

Prediction - Weeks to Decades

S2S Prediction (starting in FY16)

Climate Reanalysis

Climate Reanalysis (just ended)

Climate and Earth System Modeling

Climate Model Development

Drought and Other Applications

Drought

Climate Projections

Model Diagnostics

- A Task Force is a coordinated research effort by MAPP investigators focused on the topic of a particular MAPP grant competition



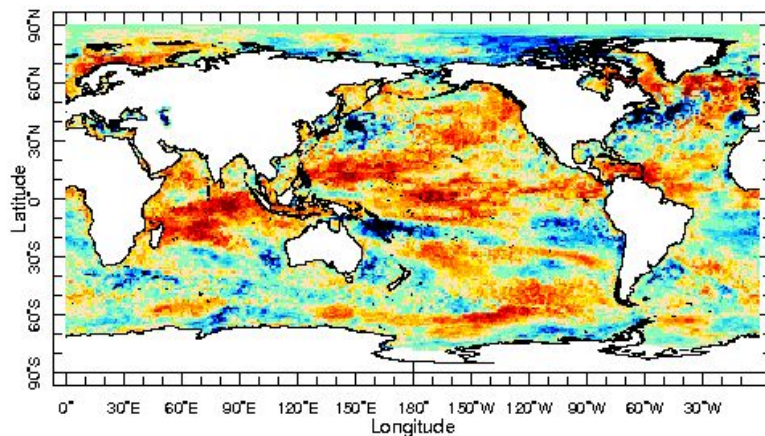
Transition of Research to Operations: The Climate Test Bed

The **NOAA Climate Test Bed** is a joint effort of CPO/MAPP and the National Centers for Environmental Prediction to advance operational climate monitoring, models, and prediction capabilities by accelerating transition of research into operations

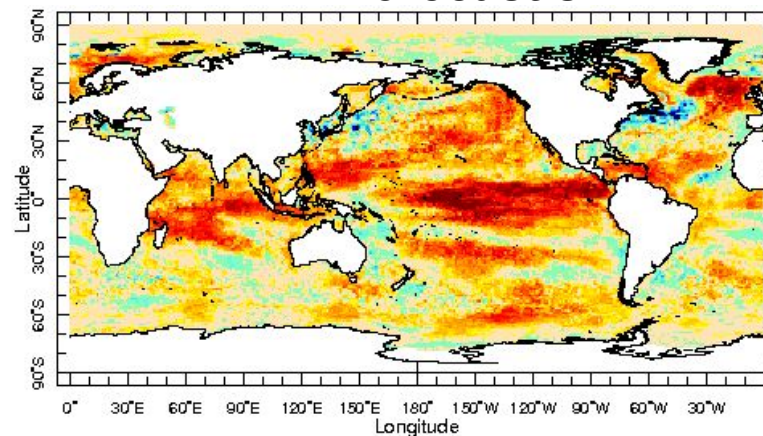
The Climate Test Bed fosters the service–science link between NOAA and the broader scientific community.

Example project: The North American Multi-Model Ensemble (NMME), a former Climate Test Bed project that is now an operational NWS system

CFSv2 forecast skill



NMME forecast skill



Ranked probability skill scores of 6.5-month sea surface temperature forecasts

Warmer colors = greater skill



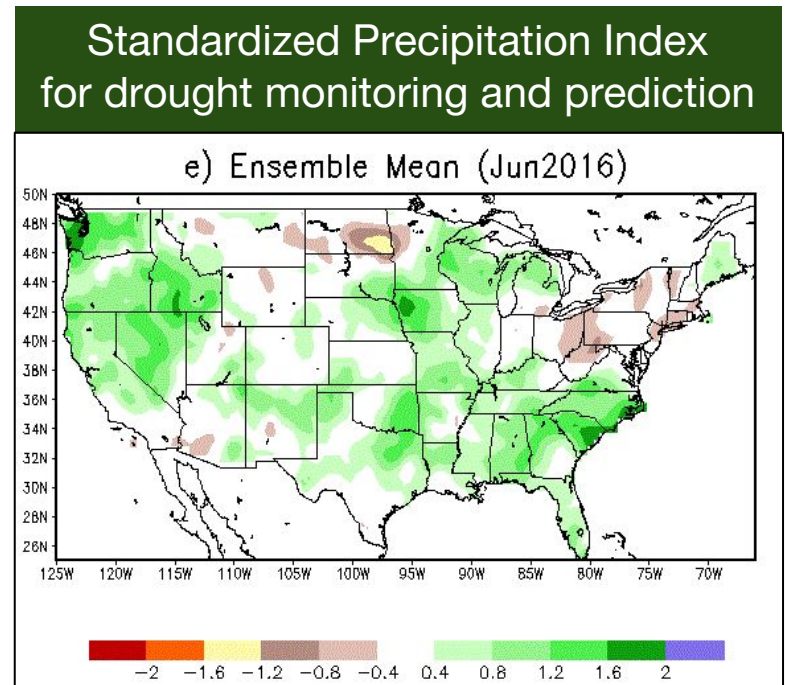
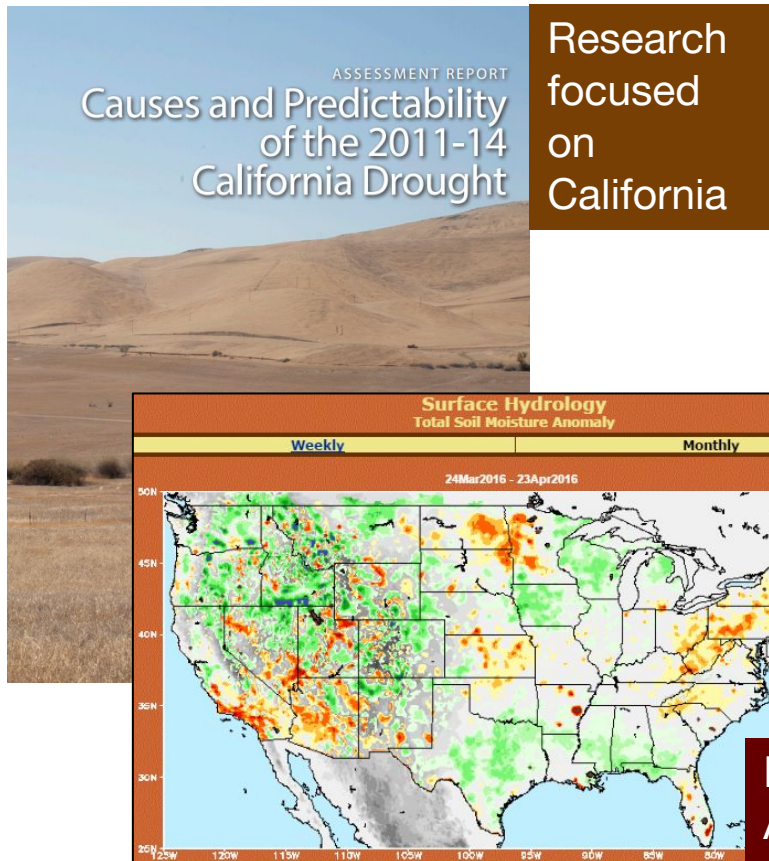
Our Program: By the Numbers

- 120+ principal investigators (PIs) engaged annually as part of 4 Task Forces and 80+ ongoing projects
- 300+ PI publications each year
- 4 special issues or collections in leading academic journals
- Several transitions of research into operations or applications each year
- Sustained communication and outreach efforts, including a webinar series in its 5th year (3000 attendees so far) and a quarterly newsletter
- 7 community reports from MAPP-organized workshops, and other activities that inform NOAA



Research Focus Highlight: Water

Through the Drought Task Force, our program supports drought monitoring, understanding, modeling and prediction research and transition in partnership with NIDIS.



North American Land Data Assimilation System:
A foundational tool for drought monitoring

New MAPP FY17 competition:

“Advancing drought understanding, monitoring and prediction”



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2) The MAPP Program's FY 2017 Grant Competitions

Dan Barrie and Heather Archambault
MAPP Program Managers





The FY 2017 MAPP Announcement

- MAPP's FY 2017 Announcement was published on July 26th, 2016 as part of CPO's Federal Funding Opportunity (FFO) (see grants.gov and cpo.noaa.gov)
- Deadlines*:
 - Letters of Intent due: Aug 26
 - Full Applications due: Oct 31
- This year, the announcement includes 2 separate MAPP competitions
- Proposals may only target **one** competition.



*See next section for how to apply. These deadlines apply to MAPP only -- other CPO programs have different deadlines.



Competition 1: Advancing drought understanding, monitoring and prediction

Soliciting new research projects focused on:

- Developing a better understanding of sources of predictability toward improving predictions of drought onset, evolution, and termination.
- Advancing the capability to model processes related to drought, including groundwater, snowpack, and human management of natural systems for both drought monitoring and prediction.
- Advancing operational drought monitoring systems; integrating new data sources and new and improved land models into NOAA's operational systems; accounting for human forcing of droughts; and improving vegetation representation.
- Advancing drought prediction systems and outlooks that contribute to the U.S. Drought Outlook.
- Developing new national-scale monitoring and forecast products building off existing products and systems relevant to drought that can help integrate the results of research advances into improved information for managers and communities.





Competition 1: Advancing drought understanding, monitoring and prediction

Two types of proposals may be submitted:

- 1) **Individual proposals** that address one or more of the research topics and contribute to collaborative Drought Task Force (DTF) activities. Proposals should identify their intended contribution to the Task Force.
- 2) **A team proposal** that addresses several of the above research objectives and also provides a framework and an infrastructure platform, as needed, to integrate research as part of coordinated NOAA DTF activities.

The core DTF team should also work to enhance international efforts that support the development of global drought monitoring and prediction such as GDIS, as appropriate.

- Type 1 proposals: up to \$170K/yr for 3 yrs
- Type 2 proposals: up to \$600K/yr for 3 yrs (including data management costs).
Only one such project may be funded

Competition Contact Information:

MAPP Program Competition Manager: Dan Barrie (daniel.barrie@noaa.gov)



Competition 2: Research to explore seasonal prediction of coastal high water levels and changing living marine resources



Steve Rothus / Miami Herald



Soliciting projects to help to
advance seasonal predictions of
(a) coastal high water levels, and
(b) living marine resources

3 research objectives in each of the above 2 topical areas:

- 1) Explore how selected modes of climate or ocean variability relate to seasonal variations in fields that are of primary relevance to predictability for the topical areas of the call, and evaluate the seasonal prediction skill of these modes.
- 2) Construct and evaluate a prototype ensemble seasonal prediction system for coastal high water levels or living marine resources at the National scale.
- 3) Develop and evaluate experimental probabilistic-based prediction products tailored to the needs of NOAA's National Ocean Service and/or National Marine Fisheries Service, as appropriate.



Competition 2: Research to explore seasonal prediction of coastal high water levels and changing living marine resources

Two types of proposals may be submitted:

- 1) **Individual proposals** addressing objectives (1) or (3)
 - 2) **A team proposal** that address all 3 objectives, constituting the framework for a prototype integrated seasonal prediction system.
 - Pls supported from this call will coordinate their work via a new **Ocean Prediction Task Force**
- Type 1 Proposals, up to \$170K/year for 3 years
- Type 2 Proposals: up to \$600K/year* for 3 years (including data management costs). A single team project may be selected in one or both topical areas.

Competition Contact Information:

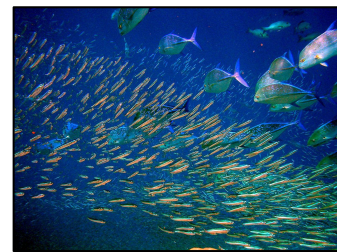
MAPP Manager: Heather Archambault; heather.archambault@noaa.gov

Fisheries Manager: Roger Griffis; roger.b.griffis@noaa.gov

*Teams covering both topical areas may request support for up to \$1M/yr



Credit: Wanda Diane Cole





CPO Review Process and Funding Recommendations

- Proposals undergo a rigorous two-stage review process described in the FFO based on **4 criteria**:
 - **Stage-1 Peer review panel (75% of score) evaluates:**
 - (1) **scientific/technical** merit,
 - (2) **qualifications** of team, and
 - (3) appropriateness of **budget**
 - **Stage-2 review panel (25% of score) evaluates**
relevance to program and NOAA
- The funding priority (ranking) for applications is set by the total score from this two-stage panel process
- Conditional on funding availability, generally about one-fourth of full applications are successful



The MAPP-Funded PI Experience

- Our program operates a webinar series in which our PIs present their work to the broad community
- Our task forces provide a platform for communication and collaboration between our PIs
- We promote the work of our PIs through Climate.gov and other outlets
- MAPP PIs and managers organize and lead sessions at relevant community meetings
- Our program circulates a program newsletter describing recent research findings and accomplishments and other opportunities
- PIs are required to submit annual and final reports





3) Applying to MAPP Competitions, including some tips*

Heather Archambault and Dan Barrie

*Disclaimer: Informal and personal suggestions based on experience



Where to Start?

- MAPP's competitions are included in CPO's Federal Funding Opportunity (FFO) published on [grants.gov](https://www.grants.gov) and cpo.noaa.gov
- The FFO includes information on:
 - Program objectives and priorities
 - Expected number, size, and duration of awards per CPO program
 - Who is eligible to apply
 - Elements of letters of intent (LOIs)
 - Elements of full applications
 - Deadlines for LOIs and full applications
 - Application review and selection criteria
 - Award reporting requirements
- **Information sheets** accompanying the FFO provide detailed descriptions of each competition - read carefully



Letter of Intent Process

- Purpose of process: provide feedback on the relevance of your proposed project to the competition
- You are strongly encouraged to submit an LOI, though it is not required
- Elements of an LOI -- **no more than 2 pages in length**:
 - Identification of the Competition that is being targeted in the LOI.
 - A tentative project title.
 - Name(s) and institution(s) of the PIs
 - Statement of the problem
 - Summary of work to be completed, including methodology to be used and data sets needed or to be collected
 - Approximate cost of the project
 - Relevance to the competition being targeted



Letter of Intent Process (2)

- We evaluate all LOIs and will determine whether a full application is:
 - Encouraged: The LOI addressed required elements of the call
 - Marginally encouraged: It hits some, but not all, required elements
 - Discouraged: It does not address required elements
- This year, you'll receive our response to your LOI by **Sep 23**
- Note that the LOI evaluation **does not** include an assessment of scientific merit
- Our response notes whether an LOI is deemed relevant or not but not the specifics as to why
- Please refrain from emailing us about whether an idea is relevant, as the LOI process serves that function



Elements of an Application

Applications are reviewed according to the 4 published review criteria.

As described in the FFO, application elements include

- Title page, including institutions, PIs, authorized representatives, and total funding and breakdown by institution and year
- One-page abstract
- Results from last 3 years of research (2 pages max)
- Statement of work (page limit depends on number of PIs)
- Data/information sharing plan (max 2 pages)
- Budget table, justification, federal forms, and indirect cost rate agreement
- Curriculum Vitae (pubs in last 3 years + 5 other relevant papers)
- Current and pending funding support
- Figures and references
- Appendices



Other General Guidance

- Be clear about which competition you are targeting and which type of proposal you are submitting
- Direct administrative questions about the FFO to Diane Brown (diane.brown@noaa.gov)
- MAPP PIs may request High Performance Computing support -- see information sheet for more details
- Public access to grant/contract-produced data is now required as a result of new federal regulations -- see information sheet for more details on required [data sharing plan](#) - how to make data available and what data need to be available



Ensure that your planned proposal meets the competition goals and requirements described in the FFO and Information Sheet.

→ Take advantage of the Letter of Intent process



Tips for Applying to MAPP Competitions (2)

Pull together a strong team of investigators.

- Members should complement each other's strengths in terms of expertise, technical skills, and experience
- The team should be suitable to address expertise areas required by the proposed work and the call
- The role(s) of every investigator should be explicitly described



Craft an excellent literature review and statement of the problem.

- Conveys to reviewers the clear need and context for the proposed work
- Demonstrates your expertise and understanding of the current state of the science
- Make sure to focus on proposed work instead of spending excessive amounts of time on background and motivation.



Additional Tips

- Make your ideas accessible
- Distinguish between what has been done and what you will do
- Reference the current literature
- Address potential weaknesses head-on (show the reviewers you're aware of where challenges may lie)
- Give details
- Support letters from relevant parties can be helpful
- Be realistic about what you can accomplish -- proposing too much work for too little \$\$ is as bad as too little work for too much \$\$
- If you would like funding to be sent to a NOAA Cooperative Institute and not to the affiliated University, indicate that clearly throughout the proposal



Additional Tips (Continued)

- **Provide proof of concept, if possible**
 - Especially for less-widely-known technical approaches or new/unproven ideas
- Clearly label and describe figures
- Include detailed timeline of tasks and milestones
- Make sure grammar and spelling is correct; seek editorial help if you feel your writing may benefit
- Target proposals at NOAA, CPO, MAPP, and the competition goals, i.e., recycling of proposals to other agencies and/or non-relevant proposals won't be successful and consume reviewer, program manager, and applicant institution time
- Define roles for no-cost collaborators